

Amendment and Response Under 37 C.F.R. 1.116

Applicant: Ray A. Walker

Serial No.: 10/044,476

Filed: January 10, 2002

Docket No.: 10019374-1

Title: METHOD AND APPARATUS FOR TRANSFERRING INFORMATION BETWEEN A PRINTER PORTION AND A REPLACEABLE PRINTING COMPONENT

REMARKS

This Amendment is responsive to the Final Office Action mailed March 13, 2003, in which claims 1-25 were rejected. With this Response, claims 19-23 and 25 have been amended. Claims 1-25 remain pending in the application and are presented for reconsideration and allowance.

Claim Rejections under 35 U.S.C. § 102

Claims 1-25 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Walker U.S. Patent No. 6,302,527.

With respect to independent claim 1, Walker '527 is said to disclose an ink level sensing system (Figure 9, reference 42; column 2, lines 20-29) comprising an ink reservoir having a radio frequency interface disposed therein (Figure 2, reference 24; Figure 9, reference 80; column 6, lines 47-55). Walker is further said to disclose a printing device configured for receiving the ink reservoir (Figure 2, reference 38). The printing device is said to include a radio frequency interface for receiving ink level information that is coupled through the ink reservoir by the radio frequency interface within the ink reservoir (Figure 9, references 74, 80; column 6, lines 47-65; column 7; column 8, lines 1-39).

Independent claim 1 of the present application claims an ink level sensing system for determining ink level in an ink reservoir and providing this ink level information to a printing system. The ink level sensing system comprises an ink reservoir having a radio frequency interface disposed therein, and a printing device configured for receiving the ink reservoir. The printing device includes a radio frequency interface for receiving ink level information that is coupled through the ink reservoir by the radio frequency interface within the ink reservoir.

Walker '527 discloses an inkjet printing device that make use of a wireless link for transferring ink level information from a replaceable ink container to a printer portion. In Walker, a replaceable printing component 14 has an ink reservoir portion 24. The reservoir portion 24 includes a housing 32 for containing a supply of ink (column 4, lines 8-9). A linking device 16 includes a sensor 42 for determining status information related to the replaceable printing component 14 and a link 44 for transferring information between the

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replaceable printing component 14 and the printing portion 12 (column 4, lines 35-39; Figure 3). The sensor 42 is defined by depositing conductive ink on a label 46 to form electrodes. In sensing a fluid level using a capacitance sensing technique, the electrodes extend over a large area on either side of the ink reservoir 24 as shown in Figures 3, 4, 5, and 6. Electrodes sensing the fluid level using a conductive technique are also positioned on either side of the ink reservoir 24 as shown in Figure 7 (column 4, lines 43-57).

Independent claim 1 claims an ink level sensing system comprising **an ink reservoir having a radio frequency interface disposed therein** (e.g., the radio frequency interface is disposed within the ink reservoir). In contrast, Walker '527 shows and teaches a linking device 16 which is disposed outside of an ink reservoir 24. This is clearly shown in Figures 5-7 of Walker '527, in which linking device 16 is shown on the **exterior** surfaces of housing 32 which contains a supply of ink. Nowhere does Walker '527 show, teach, or suggest that the linking device 16 should be disposed **within** the ink reservoir 24.

In the Office Action mailed March 13, 2003, the Examiner stated:

"Regardless of whether these assertions about linking device 16 are true, the Examiner submits that link 44 is disposed entirely within the replaceable component 14 (as shown in figure 8). Link 44 serves as a radio frequency device, linking device, first wireless link and sensor (column 2, lines 1-28, column 4, lines 33-43). Thus, Walker does disclose that the ink reservoir has a radio frequency interface disposed therein (claim 1); a linking device disposed entirely with [sic] the reservoir (claim 7); the first wireless link disposed entirely within the replaceable reservoir (claim 13); a sensor disposed within the replaceable printing component (claim 19)."

Applicants respectfully disagree with the Examiner's position. As quoted above regarding Walker '527, the Examiner states that "link 44 is disposed entirely within the *replaceable component 14* (as shown in figure 8)." (emphasis added). Applicants respectfully point out that claim 1 is directed an **ink reservoir** having a radio frequency interface disposed therein. The "ink reservoir" is that portion of the replaceable component that contains the ink. As stated in the present application, "Ink is free to move about within the reservoir portion 24" (page 5, lines 23-24). That is, **the ink reservoir 24 is defined as where "ink is free to move about"**. It can be seen from examining Figure 2 of the present

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application that the ink reservoir 24 (where “ink is free to move about”) is bounded by housing 32. As clearly seen in Figure 2, linking device 34 is within housing 32 and thus within ink reservoir portion 24.

Examining Figures 5-7 of Walker ‘527, it can be seen that “ink is free to move about” only within housing 32. Thus, housing 32 defines the “ink reservoir” as the term is used in the present application. As clearly shown in Figures 5-7, link 44 is not positioned within housing 32 where the “ink is free to move about”. Therefore, **link 44 cannot be said to be “within” the ink reservoir as claimed in claim 1.**

For the reasons discussed above, Walker ‘527 does not show, teach, or suggest, either implicitly or explicitly, that the ink reservoir has a radio frequency interface disposed therein. Accordingly, withdrawal of the rejection of independent claim 1 under 35 U.S.C. § 102(a) is respectfully requested.

Dependent claims 2-6, depend from independent claim 1, which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 2-6 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has rejected independent claim 7 as being anticipated by Walker ‘527. In particular, the Examiner found Walker to disclose a replaceable printing component (column 1, lines 62-64) comprising a reservoir for containing printing material (Figure 2, reference 24); a linking device disposed entirely within the reservoir (Figure 8, reference 14, 44) for admitting a signal indicative of printing material within the reservoir (Figure 9, reference 44; column 6, lines 47-67; column 7; column 8, lines 1-39) wherein the reservoir is formed of a material so that admitted signal passes through the reservoir for providing information to the printing system (Figure 5, reference 32; column 4, lines 33-43).

Independent claim 7 claims a replaceable printing component for use in a printing system, the replaceable printing component for containing a supply of printing material for use by the printing system to form images on media, the replaceable printing component comprising; a reservoir for containing printing material; and a linking device disposed entirely within the reservoir for emitting a signal indicative of printing material within the reservoir wherein the reservoir is formed of a material so that the emitted signal passes through the reservoir for providing information to the printing system.

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As discussed above with respect to independent claim 1, Walker '527 does not disclose a linking device disposed within the ink reservoir. Similarly, Walker '527 does not disclose **a linking device disposed entirely within the reservoir**. The comments made with respect to independent claim 1 are equally applicable to independent claim 7. Thus, for the same reasons discussed with respect to independent claim 1, Walker '527 does not show, teach or suggest, either implicitly or explicitly, **a linking device disposed entirely within the reservoir** for emitting a signal indicative of printing material within the reservoir, as claimed in independent claim 7. Accordingly, withdrawal of the rejection of independent claim 7 under 35 U.S.C. § 102(a) is respectfully requested.

Dependent claims 8-12 depend from independent claim 7, which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 8-12 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has rejected independent claim 13 as being anticipated by Walker '527. The Examiner found Walker '527 to disclose a printing system having a printing portion and at least one replaceable receiver (Figure 2, references 14, 24, 26) comprising: a first wireless link associated with the replaceable reservoir (Figure 9, reference 44), the first wireless link disposed entirely within the replaceable reservoir (Figure 8, references 14, 44); and second wireless link associated with the printer portion (Figure 9, reference 70), the second wireless link receiving replaceable reservoir information from the first wireless link by transmission of information in a wireless manner (column 6, lines 17-21).

As discussed above with respect to independent claims 1 and 7, Walker '527 does not disclose a linking device disposed within the ink reservoir, or a linking device disposed entirely within the reservoir. Similarly, Walker '527 does not disclose **a first wireless link associated with the replaceable reservoir, the first wireless link disposed entirely within the replaceable reservoir**. The comments made above with respect to independent claims 1 and 7 are equally applicable to independent claim 13. Thus, for the same reasons discussed with respect to independent claims 1 and 7, Walker '527 does not show, teach or suggest, either implicitly or explicitly, a first wireless link associated with the replaceable reservoir, **a first wireless link disposed entirely within the replaceable reservoir**, as claimed in

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independent claim 13. Accordingly, withdrawal of the rejection of claim 13 under 35 U.S.C. § 102(a) is respectfully requested.

Dependent claims 14-18 depend from independent claim 13, which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 14-18 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has also rejected independent claim 19 as being anticipated by Walker '527. The Examiner found Walker '527 to disclose a method for transferring status information from a replaceable printing component to a printer portion (column 1, lines 20-24); determining status information (as taught in claim 2) and transferring status information (as taught in claim 3).

Claim 19 has been amended to include a limitation from claim 20, specifying that the replaceable printing component is an ink reservoir and that a sensor is disposed within the ink reservoir. As discussed above with respect to independent claim 1, Walker '527 does not disclose a linking device disposed within the ink reservoir. For similar reasons, Walker '527 does not disclose a sensor within the ink reservoir. The linking device 16 of Walker '527 includes sensors 42 and a link 44. Just as link 44 is not within the ink reservoir (as explained with respect to independent claim 1), sensors 42 are not within the ink reservoir. Accordingly, Walker '527 does not show, teach, or suggest, either implicitly or explicitly, a sensor disposed within the ink reservoir as claimed in amended independent claim 19. Accordingly, withdrawal of the rejection of independent claim 19 under 37 U.S.C. § 102(a) is respectfully requested.

Claims 20 and 21, which depend from amended independent claim 19, have been amended to conform to the amendments of claim 19. Because amended independent claim 19 is in allowable condition for the reasons discussed above, the dependent claims 20 and 21 are also in allowable condition. Accordingly, withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

The Examiner has also rejected independent claim 22 as being anticipated by Walker '527. The Examiner found Walker '527 to disclose a replaceable ink container (Figure 2, reference 14; column 1, lines 20-24) including a sensing system (column 2, lines 20-22).

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Claim 22 has been amended to specify that the sensing system is within an ink reservoir of the replaceable ink container. As discussed above with respect to independent claim 19 above, Walker '527 does not disclose a sensor within an ink reservoir. Rather, the sensing system of Walker '527 (comprising sensors 42 and link 44) is not within the ink reservoir. Accordingly, Walker '527 does not show, teach, or suggest, either implicitly or explicitly, sensing system within an ink reservoir for sensing ink parameters within the ink reservoir as claimed in amended independent claim 22. Therefore, withdrawal of the rejection of independent claim 22 under 35 U.S.C. § 102(a) is respectfully requested.

Claims 23 and 25, which depend from amended independent claim 22, have been amended to conform to the amendments of claim 22. Dependent claims 23-25 depend from amended independent claim 22 which is in allowable condition for the reasons discussed above. Accordingly, the dependent claims 22-25 are also in allowable condition, and withdrawal of the rejection of those claims under 35 U.S.C. § 102(a) is respectfully requested.

CONCLUSION

In light of the above, Applicant believes independent claims 1, 7, 13, 19 and 22, and the claims depending therefrom, are in condition for allowance. Allowance of these claims is respectfully requested.

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Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Box AF, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on this 13th day of May, 2003.

By 
Name: Matthew B. McNutt